

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A ~~An~~ light-receiving circuit for receiving an optical signal with a predetermined transmission speed, comprising:

a light-receiving device;
a bias supply for providing a bias voltage to said light-receiving device, said bias supply including a high voltage source and a transistor connected in serial to said high voltage source;

a reference resistor for receiving detecting a signal current generated by said light-receiving device; and

a feedback control circuit for receiving said signal current detected by said reference resistor and feedback controlling said bias supply such that said signal current is maintained to be a predetermined magnitude,

wherein the feedback control circuit controlling in feedback said transistor in said bias supply.

2. (Cancelled).

3. (Currently Amended) The light-receiving circuit according to claim 1, further comprises comprising a current mirror circuit having one input port connected to ~~an output of~~ ~~said bias supply~~ said transistor of said bias supply and two output ports, one of two output ports being connected to said light-receiving device and the other of two output ports being connected to said reference resistor.

4. (Original) The light-receiving circuit according to claim 1, wherein said feedback control circuit has a time constant greater than said predetermined transmission speed.

5. (Cancelled).

6. (Original) The light-receiving circuit according to claim 1, wherein said light-receiving device is a PIN photodiode having an anode electrode and a cathode electrode connected to said bias supply.

7. (Cancelled).

8. (Currently Amended). A ~~An~~ light-receiving circuit for receiving an optical signal having a predetermined transmission speed, said light-receiving circuit comprising:

a high voltage source;

~~a voltage control circuit transistor with a collector, an emitter and a base, said collector being connected to said high voltage source, and said emitter outputting a controlled bias voltage;~~

~~a current mirror circuit connected to said voltage control circuit, said current mirror circuit receiving and outputting said controlled bias voltage having one input port connected to said emitter of said transistor for receiving said bias voltage and two output ports, one of two output ports being connected to said light-receiving for outputting said bias voltage;~~

a photodiode connected to said current mirror circuit for receiving said optical signal and generates generating a signal current corresponding to said optical signal by providing receiving said controlled bias voltage through said current mirror circuit;

a reference resistor for detecting said signal current connected to the other of two output ports of said current mirror circuit, said reference resistor receiving a current corresponding to said signal current; and

a feedback control circuit connected between said reference resistor and said base of said transistor voltage control circuit, said feedback control circuit feedback controlling in feedback said voltage control circuit transistor such that said signal current corresponding to said signal current and detected through said reference resistor is maintained to be a predetermined magnitude,

wherein said photodiode is an avalanche photodiode.

9. (New) The light-receiving circuit according to claim 8,
further includes a resistor connected between said high voltage source and said collector of said transistor.

10. (New) The light-receiving circuit according to claim 8,
wherein said photodiode includes a cathode connected to said current mirror circuit and an anode connected to an inverting amplifier with a feedback impedance.